

WHAT IS CLAIMED IS:

1. An apparatus comprising:
a delay line controllable by an analog control signal; and
a converter for generating the analog control signal, the converter comprising:
a bias circuit; and
a plurality of substantially identical digital-to-analog converters each
being biased by the bias circuit with a value that increases substantially geometrically
from its preceding digital-to-analog converter, the analog control signal being generated
using outputs of at least some of the plurality of digital-to-analog converters.
2. The apparatus of claim 1 wherein each of the plurality of digital-to-analog
converters has a plurality of taps and is controlled by a first and a second type of digital
control data, the first type for selecting active digital-to-analog converters and the second
type for selecting at least one of the taps in at least one of the active digital-to-analog
converter.
3. The apparatus of claim 2 wherein the converter further comprises at least one shift
register for generating one of the first and second types of digital control data.
4. The apparatus of claim 2 wherein the converter further comprising a first and a
second shift register for generating the first and the second types of digital control data,
respectively.
5. The apparatus of claim 4 wherein at least one of the first and the second shift
registers generates thermo coded data.
6. The apparatus of claim 4 wherein the first and the second shift registers generate
thermo coded data.

7. The apparatus of claim 4 wherein one of the first and the second shift registers generates thermo coded data and the other of the first and the second shift registers generates inverted thermo coded data.
8. The apparatus of claim 2 wherein the converter further comprises a plurality of inverters configured to alternatively invert the second type of digital control signals.
9. The apparatus of claim 2 wherein the converter further comprises a plurality of inverters configured to alternatively invert at least one of the first and the second types of digital control signals.
10. The apparatus of claim 1 wherein the bias circuit generates bias currents for biasing the plurality of digital-to-analog converters.
11. The apparatus of claim 10 wherein each of the plurality of digital-to-analog converters has a plurality of taps and is controlled by a first and a second type of digital control data, the first type for selecting active digital-to-analog converters and the second type for selecting at least one of the taps in at least one of the active digital-to-analog converter.
12. The apparatus of claim 11 wherein the converter further comprises at least one shift register for generating one of the first and second types of digital control data.
13. The apparatus of claim 11 wherein the converter further comprises a plurality of inverters configured to alternatively invert at least one of the first and the second types of digital control signals.